CLAIMS

1. A method of stereospecifically preparing a 3-hydroxy-5β-H steroidal sapogenin or a derivative thereof, which comprises reducing a 3-keto-5β-H steroidal sapogenin using a reducing agent comprising a hindered organoborane or an organo-aluminium hydride.

2. A method according to claim 1, wherein the reducing agent is a hindered organoborane reagent in which organic groups contain more than two carbon atoms and the sapogenin obtained is predominantly a 3β-hydroxy, 5β-H-sapogenin.

3. A method according to claim 1 or claim 2, wherein hindered organoborane is selected from lithium tri-*sec*-butylborohydride, potassium tri-*sec*-butylborohydride, sodium tri-*sec*-butylborohydride, lithium trisiamylborohydride, potassium trisiamylborohydride, potassium triphenylborohydride and lithium triphenylborohydride.

4. A method according to claim 3, wherein the hindered organoborane is lithium tri-*sec*-butylborohydride.

5. A method according to claim 1, wherein the organo-aluminium hydride is lithium tri-*tert*-butoxyaluminohydride.

6. A method according to any one of the preceding claims, wherein the molar ratio of the predominant sapogenin obtained to the alternative 3-epimer, is at least about 10:1.

7. A method according to claim 6, wherein the ratio is at least about 15:1.

8. A method according to any one of the preceding claims, when performed in an organic solvent selected from tetrahydrofuran, toluene, *tert*-butyl methyl ether, diethoxymethane, 1,4-dioxan, 2-methyltetrahydrofuran and any mixture thereof.

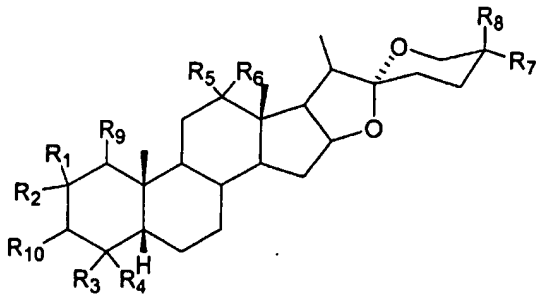
9. A method according to claim 8, wherein the organic solvent consists essentially of tetrahydrofuran.

10. A method according to claim 8, wherein the organic solvent consists essentially of toluene.

11. A method according to claim 8, wherein the organic solvent consists essentially of 1,4-dioxan.

12. A method according to claim 8, wherein the organic solvent consists essentially of 2-methyltetrahydrofuran.

13. A method according to any one of the preceding claims, wherein the desired sapogenin is a compound of general formula.



wherein R_1, R_2, R_3, R_4, R_5, R_6, R_7, R_8 and R_9 are, independently of each other, H, C_{1-4} alkyl, OH, or OR (where R = C_{6-12} aryl or C_{1-4} alkyl), or R_5 and R_6 together may represent a =O (carbonyl) or protected carbonyl group,
the stereochemistry at carbon centre 3 can be either R or S, and
R_{10} represents OH, an O-linked sugar group or any organic ester group.

14. A method according to claim 13, wherein the sapogenin is selected from sarsasapogenin, episarsasapogenin, smilagenin, epismilagenin and esters thereof.

15. A method according to any one of the preceding claims, wherein the 3-keto,5β-H steroidal sapogenin starting material is prepared by heterogeneous catalytic hydrogenation of a corresponding Δ^4, 3-keto steroidal sapogenin to convert the Δ^4, 3-keto steroidal sapogenin at least predominantly to the said 5β-H, 3-ketone.

16. A method according to claim 15, wherein the heterogeneous catalytic hydrogenation is performed using hydrogen and a palladium catalyst in an organic solvent.

17. A method according to claim 16, wherein the palladium catalyst is present on a support.

18. A method according to any one of claims 15 to 17, wherein the Δ^4, 3-keto steroidal sapogenin is diosgenone.

19. A method according to claim 18, wherein the diosgenone is obtained by oxidation of diosgenin.

20. A method for the conversion of 3α-hydroxy-5β-H steroidal sapogenins and derivatives thereof to 3β-hydroxy-5β-H steroidal sapogenins and derivatives thereof, which comprises contacting a 3-hydroxy-activated derivative of a 3α-hydroxy-5β-H steroidal sapogenin with a nucleophile under conditions favouring nucleophilic substitution with inversion at the 3-position, with optional subsequent adjustment of the 3-substituent as desired.

21. A method according to claim 20, wherein the reaction is performed according to the Mitsonobu reaction protocol, to yield an ester derivative of the 3β-hydroxy-5β-H steroidal sapogenin.

22. A method according to claim 20, wherein the activated derivative of the sapogenin is an organic sulphonated derivative.

23. A method for the synthesis of smilagenin, comprising catalytic hydrogenation of diosgenone followed by reduction of the resulting 3-keto,5β-H steroidal sapogenin using a hindered organoborane.

24. A method for the synthesis of epismilagenin, comprising catalytic hydrogenation of diosgenone followed by reduction of the resulting 3-keto,5β-H steroidal sapogenin using an organoalumino-hydride.

25. A method according to any one of the preceding claims, wherein a sapogenin initially formed is subsequently converted to a pro-drug form thereof or to another physiologically acceptable form thereof.